10/764,273

(FILE 'HOME' ENTERED AT 16:50:38 ON 13 MAY 2006)

FILE 'CAPLUS' ENTERED AT 16:50:47 ON 13 MAY 2006

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=> s hafnium nitride thin film
         40704 HAFNIUM
        226542 NITRIDE
        564035 THIN
        942173 FILM
L1           7 HAFNIUM NITRIDE THIN FILM
                 (HAFNIUM(W)NITRIDE(W)THIN(W)FILM)

=> d 1-7 bib abs

L1   ANSWER 1 OF 7  CAPLUS  COPYRIGHT 2006 ACS on STN
AN   2006:375003  CAPLUS
TI   Core Level Spectra of Hafnium and Hafnium Nitride (HfN0.9) by XPS
AU   Arranz, A.; Palacio, C.
CS   Departamento de Fisica Aplicada, Facultad de Ciencias, C-XII, Universidad
     Autonoma de Madrid, Cantoblanco, Madrid, 28049, Spain
SO   Surface Science Spectra (2004), 11(1), 33-42
     CODEN: SSSPEN; ISSN: 1055-5269
PB   American Institute of Physics
DT   Journal
LA   English
AB   The principal core level XPS spectra of hafnium and hafnium nitride
     (HfN0.9) samples are presented comparatively.  The hafnium
     nitride thin film has been grown by 3 keV
     nitrogen implantation up to saturation of metallic hafnium.

L1   ANSWER 2 OF 7  CAPLUS  COPYRIGHT 2006 ACS on STN
AN   2006:251869  CAPLUS
TI   Core level spectra of hafnium and hafnium nitride (HfN0.9) by XPS
AU   Arranz, A.; Palacio, C.
CS   Departamento de Fisica Aplicada, Facultad de Ciencias, Universidad
     Autonoma de Madrid, Madrid, 28049, Spain
SO   Surface Science Spectra (2006), Volume Date 2004, 11, 33-42
     CODEN: SSSPEN; ISSN: 1055-5269
PB   American Institute of Physics
DT   Journal
LA   English
AB   The principal core level XPS spectra of hafnium and hafnium nitride
     (HfN0.9) samples are presented comparatively.  The hafnium
     nitride thin film has been grown by 3 keV
     nitrogen implantation up to saturation of metallic hafnium.
RE.CNT  2     THERE ARE 2 CITED REFERENCES AVAILABLE FOR THIS RECORD
              ALL CITATIONS AVAILABLE IN THE RE FORMAT

L1   ANSWER 3 OF 7  CAPLUS  COPYRIGHT 2006 ACS on STN
AN   2004:739889  CAPLUS
DN   141:252518
TI   Atomic layer deposited dielectric layers to fabricate increasingly smaller
     integrated circuits
IN   Ahn, Kie Y.; Forbes, Leonard
PA   Micron Technology, Inc., USA
SO   U.S. Pat. Appl. Publ., 23 pp.
     CODEN: USXXCO
DT   Patent
LA   English
FAN.CNT 1
     PATENT NO.          KIND   DATE       APPLICATION NO.        DATE
     ---------------     ----   --------   --------------------   --------
PI   US 2004175882        A1    20040909   US 2003-379470         20030304
     WO 2004079796        A2    20040916   WO 2004-US6685         20040304
     WO 2004079796        A3    20050210
         W:  AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH,
             CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD,
             GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC,
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LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI
RW: BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

EP 1599899 A2 20051130 EP 2004-717434 20040304
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, PL, SK

US 2006001151 A1 20060105 US 2005-213013 20050826

PRAI US 2003-379470 A 20030304

WO 2004-US6685 W 20040304

AB An atomic layer deposited dielec. layer and a method of fabricating such a dielec. layer produce a reliable dielec. layer having an equivalent oxide thickness thinner than attainable using SiO2. Depositing a hafnium metal layer on a substrate surface by atomic layer deposition and depositing a hafnium oxide layer on the hafnium metal layer by atomic layer deposition form a hafnium oxide dielec. layer substantially free of silicon oxide. Dielec. layers containing atomic layer deposited hafnium oxide are thermodynamically stable such that the hafnium oxide will have minimal reactions with a silicon substrate or other structures during processing. The method of making a dielec. layer comprises forming a layer of hafnium on a substrate by atomic layer deposition; and forming a layer of hafnium oxide on the layer of hafnium by atomic layer deposition. The invention is suitable to fabricate increasingly smaller and more reliable integrated circuits (ICs) for use in products such as processor chips, mobile telephones, and memory devices such as dynamic random access memories (DRAMs).

L1 ANSWER 4 OF 7 CAPLUS COPYRIGHT 2006 ACS on STN

AN 2004:594717 CAPLUS

DN 141:283416

TI Synthesis of hafnium nitride films by 0.5-5 keV nitrogen implantation of metallic Hf: an x-ray photoelectron spectroscopy and factor analysis study

AU Arranz, A.

CS epartamento de Fisica Aplicada, Facultad de Ciencias, Universidad Autonoma de Madrid, Madrid, 28049, Spain

SO Surface Science (2004), 563(1-3), 1-12
CODEN: SUSCAS; ISSN: 0039-6028

PB Elsevier B.V.

DT Journal

LA English

AB Hafnium nitride thin films have been grown by "in situ" nitrogen implantation of metallic hafnium at room temperature over the energy range of 0.5-5 keV. XPS and factor anal. (FA) have been used to characterize the chemical composition of the films. By means of FA of the Hf 4f and N 1s XPS core level peaks, comprising principal component anal. (PCA) and iterative target transformation factor anal. (ITTFA), the number and spectral shape of the different Hf-N phases formed during nitrogen implantation, as well as their concns., have been obtained without any prior assumptions. FA results show that the composition of the hafnium nitride films depends on both the ion fluence and ion energy, the formation of the superstoichiometric Hf3N4 phase being limited by the ion beam energy. For ion beam energies, Ep ≥ 2 keV, the hafnium nitride films formed are a mixture of metallic hafnium, a substoichiometric hafnium nitride that could be associated with the trigonal .vepsiln.-Hf3N2 and/or ξ-Hf4N3 phases, and the stoichiometric HfN phase. In addition, for Ep < 2 keV, the superstoichiometric Hf3N4 phase is also present in the films for higher ion doses. Comparison of the exptl. nitrogen concentration obtained by FA with that obtained from TRIDYN simulations suggests that in addition to nitrogen implantation and atomic mixing, other mechanisms like ion beam enhanced diffusion or the chemical reactivity of the Hf substrate towards nitrogen should be also taken into account.

RE.CNT 42 THERE ARE 42 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L1 ANSWER 5 OF 7 CAPLUS COPYRIGHT 2006 ACS on STN

AN 2000:441721 CAPLUS

DN 133:77936

TI Glazed panel with thermally stable multilayer antireflective coating

IN Aomine, Nobutaka; Decroupet, Daniel; Ebisawa, Junichi; Noda, Kazuyoshi; Takeda, Satoshi
PA Glaverbel, Belg.
SO PCT Int. Appl., 26 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 2

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI WO 2000037382	A1	20000629	WO 1999-EP10075	19991215
W: AL, AM, AT, AZ, BA, BG, BY, CH, CZ, DE, DK, EE, ES, FI, GB, GE, HR, HU, IS, KG, KZ, LT, LU, LV, MD, MK, NO, PL, PT, RO, RU, SE, SI, SK, TJ, TM, TR, UA, UZ, YU				
RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
EP 1150928	A1	20011107	EP 1999-964597	19991215
EP 1150928	B1	20040915		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
AT 276211	E	20041015	AT 1999-964597	19991215
ES 2228152	T3	20050401	ES 1999-964597	19991215
JP 2000229377	A2	20000822	JP 1999-359292	19991217
PRAI EP 1998-204311	A	19981218		
WO 1999-EP10075	W	19991215		

AB The glazed panel carrying a multilayer coating stack comprises in sequence: a glass substrate, a base antireflective layer with barrier film, an infra-red reflecting layer, and a top antireflective layer. At least one of the antireflective layers comprises a mixed nitride layer of Al and ≥1 addnl. material X (the atomic ratio X/Al is ≥0.05, preferably 0.45-6, and X is ≥1 compds. selected from the Groups 3a, 4a, 5a, 4b, 5b, 6b, 7b, and 8 of the periodic table especially Si, Zr, Hf, Ti, Nb, and B). This provides an advantageous combination of properties: haze 0.2-0.4, luminous transmittance 75-77%, and thermal stability when a glazed panel is bent and/or tempered. In one embodiment, the multilayer coating deposited on a glass substrate 2 mm thick by magnetron sputtering has the following sequential structure: glass substrate, base dielecs. nitride 100 Å and ZnAlOx 230 Å, Ag-1 atomic% Pd 100 Å, overlying barrier ZnAl with Al/Zn = 0.03 at.ratio 20 Å, central dielec. ZnAlOx 750 Å, Ag-1 atomic% Pd 100 Å, overlying barrier ZnAl with Al/Zn = 0.03 at.ratio 20 Å, and top dielecs. ZnAlOx 230 Å and SiAlxNy 100 Å. This particular glazed panel is intended for incorporation in a laminated displays or vehicle windscreen.
RE.CNT 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L1 ANSWER 6 OF 7 CAPLUS COPYRIGHT 2006 ACS on STN
AN 1995:563218 CAPLUS
DN 122:326013
TI Thin film interference filter coatings and methods of making them
IN Wolfe, Jesse D.; Belkind, Abraham I.; Laird, Ronald E.
PA Boc Group, Inc., USA
SO Eur. Pat. Appl., 20 pp.
CODEN: EPXXDW
DT Patent
LA English
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI EP 622645	A1	19941102	EP 1994-303054	19940427
EP 622645	B1	19991124		
R: AT, BE, CH, DE, ES, FR, GB, IT, LI, LU, NL, SE				
CA 2120875	AA	19941029	CA 1994-2120875	19940408
CA 2120875	C	19990706		
AU 9459349	A1	19941103	AU 1994-59349	19940411
AU 678207	B2	19970522		
JP 06347640	A2	19941222	JP 1994-88680	19940426
AT 186991	E	19991215	AT 1994-303054	19940427
ES 2139050	T3	20000201	ES 1994-303054	19940427

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     CN 1100812           A     19950329    CN 1994-104654          19940428
     US 5563734           A     19961008    US 1994-337686          19941110
PRAI US 1993-54521        A     19930428
AB   Thin film interference filters comprising, in order, a transparent
     substrate, a first substantially transparent dielec. layer, a first metal
     precoat layer, a partially reflective metal layer, a second metal precoat
     layer, and a second substantially transparent dielec. layer, are described
     in which the first metal precoat layer comprises nickel and chromium or
     chromium nitride, and the second metal precoat layer comprises nickel and
     chromium nitride.  Methods for producing the films entail sequential
     deposition of the layers and include the deposition of the second precoat
     layer by reactive sputtering.  Application to the control of sunlight
     passing through windows is indicated.

L1   ANSWER 7 OF 7  CAPLUS  COPYRIGHT 2006 ACS on STN
AN   1972:146725  CAPLUS
DN   76:146725
TI   Hafnium nitride thin-film resistor
IN   Gerstenberg, Dieter; Smith, Frank T. J.
PA   Bell Telephone Laboratories, Inc.
SO   U.S., 4 pp. Division of U.S. 3,575,833 (CA 75;12265b).
     CODEN: USXXAM
DT   Patent
LA   English
FAN.CNT 1
     PATENT NO.           KIND   DATE        APPLICATION NO.         DATE
     ---------------      ----   --------    --------------------    --------
PI   US 3647662           A      19720307    US 1970-41876           19700601
PRAI US 1970-41876        A      19700601
AB   A technique for fabricating HfN film resistors involves reactively
     sputtering Hf in a N ambient on a nonconducting substrate.  Resistors
     fabricated in accordance with the described procedure manifest a wider
     range of available elec. properties, such as temperature coefficient of resistance
     and resistivity, than the widely used TaN devices.


=> s silicon nitride thin film
        767095 SILICON
        226542 NITRIDE
        564035 THIN
        942173 FILM
L2         202 SILICON NITRIDE THIN FILM
                 (SILICON(W)NITRIDE(W)THIN(W)FILM)

=> s l2 and chlorine impurities
        128928 CHLORINE
        196249 IMPURITIES
            63 CHLORINE IMPURITIES
                 (CHLORINE(W)IMPURITIES)
L3           0 L2 AND CHLORINE IMPURITIES

=> s l2 and impurities
        196249 IMPURITIES
L4           1 L2 AND IMPURITIES

=> d  bib abs

L4   ANSWER 1 OF 1  CAPLUS  COPYRIGHT 2006 ACS on STN
AN   1976:53480  CAPLUS
DN   84:53480
TI   Thin insulating layers analysis with Castaing-Slodzian ion analyzer
AU   Blanchard, B.; Brun, J. C.; Hilleret, N.
CS   Serv. Chim. Anal., Commis. Energ. At., Grenoble, Fr.
SO   Analusis (1975), 3(6), 312-16
     CODEN: ANLSCY; ISSN: 0365-4877
DT   Journal
LA   French
AB   A method is described to overcome the problems of sample surface charge,
     redeposition phenomena, choice of stds., and mobility of
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impurities in the determination of indepth concentration profiles of **impurities** in thin insulating layers of SiO2 and Si3N4 by using the Castaing-Slodzian ion analyzer. Surface charge was reduced by modifying the sample voltage. Si was used as standard for the anal. of SiO2 and Si3N4 by saturating the sample and standard with O to allow the same rate of ionization for the sample and the standard The redeposition phenomena was reduced by forming a sufficiently large crater. The mobility of the **impurities** resulting from surface charge upon ionic bombardment was avoided by bombarding the sample with neutral particles.